

That which is claimed is:

1. A method, comprising:

receiving an input signal associated with a virtual touch;

outputting a request relating to a contact with a user-interface member coupled to a handheld communication device; and

providing a control signal associated with the contact to an actuator coupled to the handheld communication device, the control signal configured to cause the actuator to output a haptic effect associated with the virtual touch.

2. The method of claim 1 further comprising extracting a haptic code from the input signal, the control signal being based at least in part on the haptic code.

3. The method of claim 1 wherein the user-interface member includes one of a key, a button, a key pad, a direction pad, a touch screen, a scroll wheel, a mini-joystick, a trackball, and a knob.

4. The method of claim 1 wherein the virtual touch is associated with one of a handshake, a high-five, a pat on the back, a pulse sensation, a heartbeat sensation, and a pet purring sensation.

5. A method, comprising:

receiving a virtual touch indicator;

performing an initialization responsive to the virtual touch indicator on a handheld communication device;

receiving a virtual touch signal associated with the initialization; and

outputting a control signal associated with the virtual touch signal to an actuator coupled to the handheld communication device.

6. The method of claim 5 wherein the actuator is configured to output a haptic effect to a user-interface member coupled to the handheld communication device.

7. The method of claim 6 wherein the user-interface member includes one of a key, a button, a key pad, a direction pad, a touch screen, a scroll wheel, a mini-joystick, a trackball, and a knob.

8. The method of claim 5 wherein the initialization includes outputting a request relating to a contact with the user-interface member.

9. The method of claim 5 wherein the virtual touch signal is associated with a manipulation of a remote user-interface member.

10. A computer-readable medium on which is encoded program code, comprising:  
program code for receiving an input signal associated with a virtual touch;

program code for outputting a request relating to a contact with a user-interface member coupled to a handheld communication device; and

program code for providing a control signal associated with the contact to an actuator coupled to the handheld communication device, the control signal configured to cause the actuator to output a haptic effect associated with virtual touch.

11. The computer-readable medium of claim 10 further comprising extracting a haptic code from the input signal, the control signal being based at least in part on the haptic code.

12. The computer-readable medium of claim 10 wherein the virtual touch is associated with one of a handshake, a high-five, a pat on the back, a pulse sensation, a heartbeat sensation, and a pet purring sensation..

13. A computer-readable medium on which is encoded program code, comprising:  
program code for receiving a virtual touch indicator;  
program code for performing an initialization responsive to the virtual touch indicator on a handheld communication device;

program code for receiving a virtual touch signal associated with the initialization;  
and

program code for outputting a control signal associated with the virtual touch signal to an actuator.

14. The computer-readable medium of claim 13 wherein the actuator is configured to output a haptic effect to a user-interface member coupled to the handheld communication device.

15. The computer-readable medium of claim 14 wherein the user-interface member includes one of a key, a button, a key pad, a direction pad, a touch screen, a scroll wheel, a mini-joystick, a trackball, and a knob.

16. The computer-readable medium of claim 13 wherein the initialization includes outputting a request relating to a contact with the user-interface member.

17. A data stream embodied in a carrier signal, carrying instructions to:  
receive an input signal associated with a virtual touch;  
output a request relating to a contact with a user-interface member coupled to a handheld communication device; and

provide a control signal associated with the contact to an actuator coupled to the handheld communication device, the control signal configured to cause the actuator to output a haptic effect associated with the virtual touch.

18. A data stream embodied in a carrier signal, carrying instructions to:  
receive a virtual touch indicator;  
perform an initialization responsive to the virtual touch indicator on a handheld  
communication device;

5 receive a virtual touch signal associated with the initialization; and  
output a control signal associated with the virtual touch signal to an actuator coupled  
to the handheld communication device.

19. The apparatus, comprising:

a user-interface member coupled to a body;

10 a processor;

an actuator coupled to the body and in communication with the processor; and

a memory in communication with the processor, the memory storing program code  
executable by the processor, including:

program code for receiving an input signal associated with a virtual touch;

15 program code for outputting a request relating to a contact with the user-  
interface member; and

program code for providing a control signal associated with the contact to the  
actuator, the control signal configured to cause the actuator to output a haptic effect  
associated with the virtual touch.

20 20. The apparatus of claim 19 wherein the body is included in a handheld communication  
device.

21. The apparatus of claim 20 wherein the handheld communication device includes one  
of a cellular phone, a satellite phone, a cordless phone, a personal digital assistant, a pager, a  
two-way radio, a portable computer, a game console controller, a personal gaming device,  
25 and an MP3 player.

22. The apparatus of claim 20 wherein the user-interface member includes at least one of  
a key, a button, a key pad, a direction pad, a touch screen, a scroll wheel, a mini-joystick, a  
trackball, and a knob.

23. The apparatus of claim 19 wherein the virtual touch is associated with one of a  
30 handshake, a high-five, a pat on the back, a pulse sensation, a heartbeat sensation, and a pet  
purring sensation.

24. The apparatus, comprising:

a user-interface member;

a processor;

an actuator coupled to the a user-interface member and in communication with the processor; and

a memory in communication with the processor, the memory storing program code executable by the processor, including:

- 5           program code for receiving a virtual touch indicator;
- program code for performing an initialization responsive to the virtual touch indicator;
- program code for receiving a virtual touch signal associated with the initialization; and
- 10          program code for outputting a control signal associated with the virtual touch signal to the actuator.

25.   The apparatus of claim 24 wherein the user-interface member is coupled to a handheld communication device.

15   26.   The apparatus of claim 25 wherein the handheld communication device includes one of a cellular phone, a satellite phone, a cordless phone, a personal digital assistant, a pager, a two-way radio, a portable computer, a game console controller, a personal gaming device, and an MP3 player.

20   27.   The apparatus of claim 24 wherein the user-interface member includes at least one of a key, a button, a key pad, a direction pad, a touch screen, a scroll wheel, a mini-joystick, a trackball, and a knob.

28.   The apparatus of claim 24 wherein the virtual touch signal is associated with a manipulation of a remote user-interface member.